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Amendments to the Specification:

Please replace the following paragraphs as follows:

Replace paragraph 5 in its entirety by:

[0005] A new, more sophisticated, class of cochlear implant, referred to as a bionic ear, is now available, providing patients with enhanced hearing performance. For example, Advanced ~~[Bionics]~~ Bionics[®] Corporation, of Sylmar, California, currently offers a cochlear implant which it refers to as the CII Bionic ~~Ear[™]~~ Ear[®] cochlear implant. Many features associated with the CII Bionic ~~[Ear]~~ Ear[®] implant are described in U.S. Patent 6,219,580, incorporated herein by reference. The added complexity of the CII Bionic ~~[Ear]~~ Ear[®] cochlear implant includes higher numbers of channels, arbitrary simultaneous grouping, intra-phase gaps, binaural capabilities, and the like. The Bionic Ear Implant contains advances in, e.g., internal memory banks, that enable it to send very detailed, high resolution sound signals to the auditory nerve. Such signals are delivered to the auditory nerve using a special electrode adapted to be inserted into the cochlea. A representative electrode usable with the CII Bionic ~~[Ear]~~ Ear[®] is described in U.S. Patent No. 6,129,753, also incorporated herein by reference.

Replace paragraph 28 in its entirety by:

[0028] At the outset, it is noted that, while the following describes the invention mainly in terms of the Clarion[®], CII Bionic ~~Ear[™]~~ Ear[®], and ~~[HiRes90K]~~ HiRes90K[®] cochlear implant systems, which cochlear implant systems are commercially available from Advanced Bionics[®] Corporation of Sylmar, Calif., the invention is not so limited. Rather, any multichannel cochlear implant system may benefit from the present invention. The ~~[Clarion]~~ CLARION[®], CII Bionic ~~[Ear]~~ Ear[®], and ~~[HiRes90K]~~ HiRes90K[®] systems are referenced and described herein as examples of how the best mode of the invention may be implemented. As the ~~[Clarion]~~ CLARION[®], CII Bionic ~~[Ear]~~ Ear[®], and ~~[HiRes90K]~~ HiRes90K[®] systems are not the subject of the invention, per se, many of the details associated with the ~~[Clarion]~~ CLARION[®], CII Bionic ~~[Ear]~~ Ear[®], and ~~[HiRes90K]~~ HiRes90K[®] cochlear prostheses, including their electrodes, electrode arrays, implantable cochlear stimulators (ICSS), speech processors, and headpieces, are not

presented herein, but may be found elsewhere, or are known in the art. For example, the [Clarion] CLARION[®] ICS is described, inter alia, in U.S. Patent No. 5,603,726, which is incorporated herein by reference. As mentioned earlier, the CII Bionic [Ear] Ear[®] system is described in U.S. Patent No. 6,219,580.

Replace paragraph 30 in its entirety by:

[0030] The ICS 21 and SP 16 are shown in FIG. 1A as linked together electronically through a suitable data or communications link 14. In some cochlear implant systems, e.g., the [Clarion] CLARION[®] system, SP 16 and microphone 18 comprise the external portion of the cochlear implant system and the ICS 21 and electrode array 48 comprise the implantable portion of the system. Thus, the data link 14 is a transcutaneous data link that allows power and control signals to be sent from SP 16 to ICS 21, and allows (in some configurations) data and status signals to be sent from ICS 21 to SP 16. The details of such communication link 14 are not important for purposes of describing the present invention.

Replace paragraph 43 in its entirety by:

[0043] Still with reference to FIG. 1B, it should be noted that the speech processing circuitry 16 generally includes all of the circuitry from point [C] (C) to point (A). In prior art cochlear implant systems, the entire SP circuitry was housed in a speech processor that was part of the external (or non-implanted) portion of the system. That is, in such prior art systems, only the ICS 21, and its associated electrode array, were implanted, as indicated by the bracket labeled "Imp1" (for "Implant-1"). This means that in such prior art systems, the signal passing through the serial data stream at point (A) is also the signal that must pass through the transcutaneous communication link from the external unit to the implanted unit. Because such signal contains all of the defining control data for the selected speech processing strategy, for all *m* stimulation channels, it therefore has a fairly high data rate associated therewith. As a result of such high data rate, either the system operation must be slowed down, which is generally not desirable, or

the bandwidth of the link must be increased, which is also undesirable because the operating power increases.

Replace paragraph 45 in its entirety by:

[0045] It is contemplated that future generations of bionic ear implant systems will incorporate more and more of the speech processor 16 within the implanted portion of the system. For example, a fully implanted speech processor 16 would incorporate all of the SP in the implanted portion, as indicated by the bracket labeled Imp3 in FIG. 1B. Such a fully implanted speech processor would offer the advantage that the data input into the system, i.e., the data stream that passes through point ~~(C)~~ (C), would need only have rate commensurate with the input acoustic signal.